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ABSTRACT

In order to assess the effects of the remedial (foundations) program at Mohegan Community College (Connecticut) on students' academic performance and persistence in college, a study was made of 180 students who had enrolled in the Foundations Program between September 1971 and 1974, and 180 students who had scored below the 50th percentile on the Comparative Guidance and Placement Test but had not enrolled in the program. Students in the control group were chosen by the matched pair technique; scores of enrolled students were sifted for scores equal to those of students in the treatment group. Then, one score was randomly selected for each score in the treatment group. Using the records in the office of the registrar, transcripts of all subjects were examined and a variety of data were collected. Students in the Foundation Program were found to have significantly greater persistence than those in the control group. Students in the treatment group who persisted for a set period of time had higher quality point averages (QPA's) than classmates not enrolled in the program. Whether a student volunteered for the program or was pressured to enroll, his level of persistence was likely to be about the same. A survey of the literature is included and a bibliography is appended. (NHM)

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An Evaluation of an Individualized Interpersonal and Interdisciplinary Team Approach to Remediation at Mohegan Community College

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A MAJOR APPLIED RESEARCH PROJECT
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ABSTRACT

Problem

The open door and open admissions policy of the community and junior colleges of America have encouraged many non-traditional students, who might not otherwise have the opportunity, to further their education. Because of this policy many colleges initiated remedial courses and programs to meet the needs of those students. However, the literature suggests that while there are many programs being initiated, there is little evidence that evaluation of those programs is more than cursory.

The purpose of this study was to determine the effects of the remedial (foundations) program at Mohegan Community College. It attempted to assess the effects of the program on students' academic performance and persistence in college. The study was conducted to determine if there was a significant difference in academic performance and persistence in college, between students who enrolled in the Foundations Program and those who had similar reading characteristics, but did not elect to enroll in the program.

Methods

Ss were selected from all entering freshmen in each of the freshmen classes from September 1971 through September 1974. This study concerned itself with those who scored below the 50th percentile on the CGP. Ss in the treatment group equaled the total program population over the three and one-

half year period covered by the study (N=180). Ss in the control group were selected in the following manner: all freshmen who scored below the 50th percentile on the CGP were identified through the records in the counseling office. Next, using the matched pair technique, scores equal to each score in the treatment group were isolated. Then using a table of random numbers, one of the scores was randomly selected as the control group population (N=180).

Using the records in the office of the registrar, transcripts of all Ss were examined and a variety of data were collected for each class.

1. Class of September 1971 was followed for a period of two years for persistence and cumulative QPA.

2. Class of September 1972 was followed for a period of two years for persistence and cumulative QPA.

3. Class of September 1973 was followed for a period of one and one-half years. QPA was tested at the end of that period, as was persistence.

4. Class of September 1974 was followed only for the six-month period until February 1975. In that case QPA was not a factor. Persistence for treatment and control groups was examined for significant differences.

Results

1. Students who had enrolled in the Foundations Program were found to have greater persistence than their classmates who had similar reading characteristics and had not enrolled in the Foundations Program, at the .001 level of significance

(X^2= 20.16,df=1).

2. Students who were enrolled in the Foundations Program and who persisted for the defined period of time, had higher cumulative QPA's than classmates who were not enrolled in the Foundations Program, but also persisted. The results of a t-test indicated that the foundations students, had significantly higher cumulative QPA's than non-foundations students at the .05 level of significance (t-2.06,df=109).

3. It was also found that whether a student volunteered for the program, or was pressured to enroll, he performed equally well as far as persistence was concerned. A chi-square test of significance indicated that there was no significant difference in persistence between the two groups. Although the volunteer's mean QPA was slightly higher than the non-volunteer group, a t-test to determine significance was employed and it indicated that there was no significant difference between the means of the two groups.

Conclusions

The persistence and QPA performance of the experimental group exceed that of the control group, and differences at .05 and beyond favoring the experimental group were found for Hypotheses One and Two. All the tests of significance for Hypothesis Three proved to be not significant as predicted. This consistent pattern clearly supports the conclusion that the Foundations Program was effective.

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INTRODUCTION

> The high risk student is an educational reality. Like a latent disease, he will not go away. Unfortunately, few teachers can, or want to, teach him at the college level, even fewer understand him, many reject him academically and socially, and a large percentage of people in higher education consider his presence in college a prostitution of higher education (Moore, 1970, p. 84).

The people who are identified as high risk, marginal, academically deficient, disadvantaged, or any of a dozen similar names, pose a problem for the community junior colleges and their philosophy of open admissions and open doors. Inherent in the open door and open admissions policy is the fact that almost anyone who possesses a high school diploma or an equivalency diploma, or in some cases neither, may enroll in most community colleges without entrance exams or other selective criteria.

Soon after Mohegan Community College in Norwich, Connecticut, opened its doors for the first time in September, 1970, it was apparent what the open admissions policy could mean to college registration. Attrition began to raise its ugly head and students "dropped out" of their elected courses. It was that there were many students who would need additional help before being able to continue in "college level" courses.

Roueche (1968) has stated that if students are identified as having academic weaknesses and are permitted through the open door and then allowed to fail, the community college has adopted the revolving door.

The faculty, students and administration at Mohegan were concerned by the students' apparent lack of preparation for college level courses, and were more concerned that no programs were available for these ill prepared or marginal students. Moore (1970) has quoted faculty members in various community colleges as saying, "I didn't know it was the job of the colleges to do missionary work with weak students. There are too many qualified students who need help to waste our time with those who can't cut the mustard (p. 135)." In its first year of existence with a small student population and a small faculty group, comments such as that were not heard at Mohegan. The staff and students recognized these "weak" students and their academic weaknesses and determined to work with them.

Gleazer (1972) in an address to Phi Delta Kappa at the University of Connecticut said it was clear that the public schools and community colleges have over-lapping interests, and each has a stake in the productivity of the other. He clearly delineated the role of the community college.

> Some educators have proposed that the responsibility for inadequately prepared students should be turned back to the elementary and secondary schools, since obviously it would be better if students learned to read and write before they entered the community

> college. There is no doubt where the solution should be sought over the long haul, but now the community colleges must assume the role of meeting the student where he is.

The lack of preparation alluded to by Gleazer does not necessarily reflect lack of intelligence, but rather the unique background and needs of community college students. Some are veterans who returned from service with a greater degree of maturity than they had in high school. Some are recent graduates who had not planned college careers and lack preparation to move into college courses. Others are older men and women who left high school many years ago and enter college later in life. There may be some who are speakers of English as a second language. High school students who had nothing "better" to do, or had just been "getting by" in school may also be among the new students.

Mohegan Community College made a major commitment as a first priority for the second year of the college's existence. That priority was to establish a meaningful remedial program with facilities, materials, and faculty whose primary responsibility would be to teach remedial reading, math and English. The program would be funded directly from the school budget and not from federal funds or grants. The three full-time faculty who would teach foundations courses would account for more than 15% of the teaching faculty for the entire college for the ensuing year.

Context of the Problem

It is the open door and open admissions policy that encourages non-traditional students to enroll in community colleges. Moore (1970) emphasized that the term "open door" is hypocritical rhetoric if students, regardless of their level of achievement, do not receive the best education possible in the college, commensurate with their needs, efforts and abilities. Because of the open door and open admissions policy, and because colleges were admitting low-achieving, non-traditional students, remedial courses and programs were initiated for them. That trend has continued to the present time. Mohegan Community College is part of that trend. However, it is one thing to establish programs and it is another to determine if they work. Are we giving those students the best education possible? Are we meeting students where they are regardless of their past history?

Kendrick and Thomas (1970) expressed their feelings about remedial programs.

> Research on the extensiveness and effectiveness of compensatory programs has been limited in quantity and scope. Yet, even with the paucity of evaluative studies, it is safe to note that evidence points to the conclusion that existing compensatory programs and practices have made little impact in eradicating the problems of disadvantaged students, nor have the majority of colleges accepted this as their role (Kendrick & Thomas, 1970, p. 171).

Remedial programs are usually established because it is

believed that students' chances for academic success in college will be made greater by being in such programs. However, Schenz (1963), Berg and Axtell (1968), and Roueche (1968) pointed out that there is very little hard evidence existing to support the contention that these programs do help the student overcome his deficiencies. Gordon and Wilkerson (1966) reported that despite overwhelming acceptance of the compensatory education commitment, they found no effort at evaluating the programs.

Roueche (1972) has concluded that there is a pronounced lack of research on the effectiveness of remediation efforts in community colleges in terms of assessing academic performance, persistence and attitudes of high-risk students. He further suggests that the evidence indicates that remedial courses and programs in two year colleges, and in four year institutions as well, have largely been ineffective in remedying student deficiencies. Moore (1970) declares emphatically that "the odds are that the high-risk student enrolled in remedial courses will not be better off academically after his experience than he was before he had the experience (p. 3)."

Statement of the Problem

The purpose of this ex-post facto study will be to determine the effects of the remedial (foundations) program at Mohegan Community College. It will attempt to assess the effects of the program on students' academic performance and persis-

tence in college.

> Many faculties feel that the effect of cultural or educational deprivation is irreversible by the time the student is in college, and their performance at present makes it abundantly clear that this is an accurate statement (Moore, 1971, p. 83).

This study will determine if there is a significant difference in academic performance and persistence in college between students who enrolled in the Foundations Program at Mohegan Community College and those who had similar reading characteristics, but did not elect to enroll in the program.

Review of the Literature

The literature related to success of remediation in the community colleges is relatively small. Kendrick and Thomas (1970) found that research on the effectiveness and extensiveness of compensatory programs has been limited in scope. They commented that the evidence led them to the conclusion that existing programs had little effect on easing problems of disadvantaged or marginal students.

Roueche and Hurlburt (1968) argued that evaluation of remedial programs is essential if for no other reason than the knowledge that current efforts with the low achieving student are ineffective. They stated: "We believe that community colleges can no longer assume that remedial courses "remedy" student deficiencies. Rather it becomes increasingly clear that two year colleges are going to accept the challenge of

demonstrated student learnings as the criterion for the success of any program for the low achiever (Roueche and Hurlburt, 1968, p. 456)."

Losak (1972) agrees and further comments that contrary to a general feeling that a remedial program is a good experience it is as "immoral" to place students in a remedial program, when there is no evidence that anything worthwhile is happening to them, as to place them in a regular classroom setting.

Losak (1972) has listed several basic areas considered as criteria for evaluation of a remedial program. He lists them in no particular order of importance:

1. Academic progress as evidenced by GPA, graduation rate, retention and persistence rate.
2. Personality changes.
3. Attitudinal changes.
4. Changes in self-concept.
5. Job placement.

He is quick to suggest however, that even if all the criteria after Number 1 are successful, but Number 1 in and of itself does not show some significant measure of success, it will be difficult to prove the program was effective. And consequently, it will be difficult to sell the program to an administrator, legislator or the community.

Prior to 1966 only three college studies could be found which dealt with evaluation of remedial programs and reported

the use of control groups (Barlow, 1965, McDonald, 1957 and Schenz, 1963). Current literature shows there to be approximately 25-30 evaluations, of which only 10 have some form of control group. The literature on evaluation appears to be somewhat contradictory. Losak (1972) noted that when control groups were used there didn't seem to be any strong evidence to support the statement that remedial programs were doing a great deal for our students.

Available studies on the effectiveness of remedial courses in two year colleges have reported results largely in terms of group gains in the performance of selected skills taught. While the evidence may suggest that instructions in a particular course leads to increased ability in certain skills, it does not test the assumption that such improvement results in improved academic performance and a significant reduction in the attrition rate of low achievers over several semesters.

Successful remedial reading programs. The area most reported on in the remedial programming of junior colleges is the effectiveness of remedial reading. Most studies show a positive relationship between academic performance and reading ability. In these studies, academic performance is usually measured by grade point average and scholastic attrition. Reading ability is usually measured by reading tests which provide scores on comprehension, vocabulary and rate. However, McDonald (1957) pointed out that research in this area is deficient in basic design.

Some studies offer inconclusive evidence as to whether a significant change in GPA results from remedial reading courses. However, McGinnis (1957), McDonald (1957) and Dalton (1966) found that there were significant increases due to reading courses. These studies followed students for one semester after they completed the remedial reading course. In studying the effect of a college reading program on GPA, Freer (1968) found that a higher GPA was made by experimental students at the end of that semester. In follow-up studies at the end of the sophomore year it was found that those who took the reading course improved their reading achievement scores more than did the control students, but no mention is made of GPA at the end of that period.

Wendall (1965) selected entering freshmen scoring in the lowest quartile on the verbal section of the College Boards for control and experimental subjects. Experimental students received one semester of two hours weekly in reading and study skills. The results showed significance ($p < .055$) in favor of the experimental subjects. A follow-up study of grades at the end of the first year of college showed experimental students had a significantly higher mean grade point average.

Lowe (1967) found, in a study comparing the group who took a college reading improvement program (CRIP) versus a non-CRIP group, that although the CRIP group were significantly inferior readers, they did not earn proportionately more high or low grades than did the non-CRIP group members.

However, it was concluded that a majority of CRIP students were helped by the program.

Singer and Martin (1969) found that while there was a significant difference in GPA after the first semester between control and experimental groups, there was no significant difference after the second and third semester; however, it was reported that the attrition rate was considerably lower for the experimental group than for the control group.

Doctoral studies evaluating developmental programs. There appear to be only three doctoral studies which attempted an evaluation of remedial programs at the college level using some form of control group. Gregory (1966) used a control and a group of low achieving high school graduates. He reported that the developmental program at Grand Rapids Junior College was successful. Handy (1966) made an after-the-fact comparison of those students who for some reason did not enroll in the remedial program, but met criteria for enrollment, with those students who did enroll in the remedial program. His findings indicated that students in the basic studies program made a higher GPA during the first semester of credit courses than the control group. This was not conclusive and it was not followed beyond the second semester. Losak (1969) found after one semester of remediation in a combination Reading-Writing Course (English 090), that the course was not effective in raising the GPA to a C during the second semester, and did not produce any meaningful difference in student

attrition. He also found that the experimental group did not earn a significantly higher proportion of passing grades than those students in the control group.

Successful developmental programs. Roueche (1972) pointed out in his recent study that the retention rate in the remedial programs ranged from seventy-five to ninety percent. That is, seventy-five to ninety percent of all the students who enrolled in a remedial program completed that program. It was found that of those who had enrolled in the same college with similar deficiencies, but who chose not to enroll in developmental programs, only 35% persisted in their selected programs.

In the Metropolitan State College, Denver, Yuthas (1971) matched four groups of low ability "high risk" students, two control and two experimental, to test the effectiveness of two approaches to remediation. Persistence and GPA were used as criteria. The results led to the conclusion that enrollment in remedial programs of the type offered by Metro resulted in a substantially reduced rate of attrition and a higher grade point average among low achievers.

Shea (1967) found that in a summer course designed to prepare underachieving high school graduates for successful completion of the first semester of a two year terminal junior college program, that the remedial program was a causative factor in upgrading student scores on the Lorge-Thorndike Test of Intelligence, the Davis Reading Test and the SAT. Only 41% of the participants failed by the end of the first semester in

college, whereas based on admission criteria, none of those should have succeeded.

In September 1965 an Independent General Studies program was begun at Macomb County College in Warren, Mich. Chalghian (1969) reported that the original group was matched against a comparison group that entered the regular college liberal arts program at the same time. At the end of two years it was found that one-half of the experimental group had earned 55 or more credits, while only one-tenth of the control group had earned that number. Additionally, in terms of percentage, three times as many experimental students graduated from Macomb.

Meister and Tauber (1965) concluded that there were lower than usual attrition rates among students who were provided with special services. Reynolds (1965) and Pollard (1967) found that attrition among the disadvantaged was no higher than among college dropouts as a whole. There was rarely the accepted 50% dropout among the marginal students when they were in special programs designed for them.

Alexakos and Rothney (1967) reported that students undergoing a special guidance laboratory in high school appeared to perform better in college than a comparable group who did not receive that opportunity. Meister, et al (1962) commented on the program "Operation Second Chance" noting that it had produced a reversal of the trend toward failures. Williams (1969) suggested that when attrition rate has been used as a

criterion of success it has been reported that high risk students' holding rate was not measurably different from that of regular students. However, very little research has been done to consider whether the comparable retention rate of marginal students is a function of innovations in the programs or other factors.

Solomon (1972) concluded that after a summer program of intensified remediation for those freshmen diagnosed as needing that kind of program, the students demonstrated they were able to do regular work rather than remedial work at the end of the program. Students reported enjoying the program and motivation was high. There was no statistical evidence or control group, however.

Vaughan (1972) observed that in a basic skills program where students worked at their own pace in math and English laboratories, students generally had higher GPAs at the end of the year. Statistical information was used primarily to illustrate trends and not to document the conclusion.

Roueche and Kirk (1972) in a study of four community colleges with somewhat different approaches to remediation, and assessing students in terms of student persistence and academic performance, reported that high risk students in a special program tend to persist to a greater degree and achieve academically at a higher level than comparable high risk students in a regular program.

There appears to be evidence that while students are enrolled in a developmental or remedial program for periods ranging from one semester to one full year, their persistence is high. Their academic performance appears to be higher than those students who are at the same time taking regular college courses. However, the researchers ignore the fact that the grades received by developmental students can not be equated with the grades of traditional college courses such as psychology and philosophy. It is logical that grades received in the developmental courses would be higher. As far as the higher persistence rate of the developmental students is concerned, it is accepted that when people are working at their own level of achievement and making progress at their own rate, the ability to persist is made relatively easier.

Less than successful developmental programs. The fact that long term effects of special remedial programs are rarely assessed is a frequent criticism of current evaluative techniques. Barlow (1965), Johnson (1962) and Lovell (1963) have shown that the rate of gain achieved by students during remedial teaching tends to dissipate after they leave the program. Roueche (1972) agrees and comments that in several of the studied colleges, and others reported to him, students suffered accelerating attrition and declining achievement immediately upon reentry into traditional classroom study and instruction.

Snyder and Blocker (1970) found in a study of developmental students who attended Harrisburg Community College over

a period of three years, that between thirty-three and forty-nine percent of the students did not return for a second year's work. Ludwig and Gold (1969) found that only 37% of remedial students at Los Angeles City College achieved a grade of C or above for the first semester and that only 34% completed two years of study. Sharon (1971) found that the English remedial course had no effect on the students' course performance, but had produced a small improvement in subsequent course performance.

Baehr (1969) found that while students overwhelmingly support the principles of remedial education, and personalized remedial training significantly increases the will and desire to continue their college education, it does not necessarily increase their academic success. He also found that remedial assistance cannot necessarily be limited to an intensified program during a single semester, or even a single year.

Gaither (1968) evaluated the effectiveness of a remedial program at Fresno State College over a period of four semesters using students who scored below the 15th percentile on the Cooperative English Tests, and dividing them into two groups. Group I enrolled in remedial programs, and Group II enrolled in three or more academically transferable courses. Observations were that the dropout rate was about the same over two years. Group I (Remedial) did not outperform those in Group II who should have taken but did not take the remedial courses. The basic conclusion was that those directed to remedial pro-

grams did no better or worse than those in academic programs who should have been directed to remedial courses.

In a study to evaluate selected aspects of the remedial program at Miami-Dade North Campus, Losak (1972) found that as presently designed, the remedial program did not produce any meaningful differences in student withdrawal from college and was not more effective in raising GPA.

Bragg (1973) reported that in the developmental studies division of the Nelson Community College, a study was conducted to determine if those students who completed the objectives of the developmental program could successfully compete with regular students in beginning credit English and math courses in grade point average. It was found that the mean GPA for post-developmental students in five beginning credit courses was lower than the mean GPA of regular students in the same course.

Ferrin (1971) reported that there were no positive outcomes for three-quarters of all the students in the remedial program, although no comparison group or control group was used. In the study of California Public Junior Colleges, Bossone (1966) observed that while 80% of the entering freshmen were enrolled in remedial English, only 20% matriculated from regular college courses. It was concluded that the remedial program did not reduce the dropout rate of underachievers who took the course.

This evidence and the persistently high dropout rate

among those students enrolled in remedial courses casts considerable doubt upon the effectiveness of a majority of remedial programs now in effect. The literature suggested that a large percentage of remedial students do not persist into the second year. However, it did not report what the rate of persistence is among the non-remedial students with similar academic deficiencies. While the literature suggested that those remedial students experience rapidly accelerating attrition after leaving the program, it did not suggest or offer data on those students who had similar academic deficiencies but did not enroll in the program for remediation.

The research appears to be short on studies which have some sort of control group, which follow developmental students for longer than one or two semesters, or which follow more than one entering freshmen class. Losak (1972) stresses that just because students successfully complete a remedial program, it does not follow that the program was successful. The student may have been successful had he not gone through the program. The researcher must be able to demonstrate that the remedial program can provide more success for the students than they would have had without the program.

Statement of the Hypotheses

The following hypotheses were formulated:

(a) Ss enrolled in a Foundations Program have greater persistence in college than classmates with similar

reading characteristics who were not enrolled in a Foundations Program.

(b) Ss enrolled in a Foundations Program and who have persisted, have higher cumulative QPA's than classmates with similar reading characteristics who were not enrolled in the Foundations Program, but have also persisted.

(c) Among those Ss who have had the Foundations Program, volunteers and non-volunteers do equally well with respect to persistence and cumulative QPA.

Rationale for the Hypotheses

There was empirical evidence which supported parts of the hypotheses. Roueche (1972), Reynolds (1965), and Pollard (1967), suggested that when students were enrolled in a compensatory program, they had greater persistence and higher academic achievement than those students who did not elect to enroll in a similar program. Roueche (1972) observed that after students left the remedial program, however, and entered the regular college program, rapid acceleration of attrition occurred and academic performance deteriorated. He listed several positive factors which remedial programs ought to have in order to help students succeed in the regular college curriculum. He called for these to be implemented in all remedial programs and referred to them as the "Components of Success."

1. Faculty who teach remedial students should be volun-

teers who are chosen for their effectiveness and desire to teach marginal students.

2. Instruction should be varied, with emphasis on involving the student in the learning process. Lectures are not appropriate for developmental students as a steady diet. Tutoring should be employed as a means of personalizing instruction. Self-paced and audio-tutorial instruction are suggested as a good means for reaching non-verbal students. The use of measurable objectives is an element of instruction which is purposeful and meaningful.

3. A program should strongly emphasize the innate worth of the individual student and develop a positive self-image.

4. A good image of the program in the college and the community is another essential for success.

5. Team counseling, utilizing the expertise of several people, should be employed.

6. A strong commitment to the developmental program on the part of the institution is a necessity. The obligation to marginal and high-risk students should be more than merely lip service in the form of watered-down courses which try to pass for developmental courses.

7. A separate program with separate administration and separate budget would allow for greater independence, prestige and innovation. It has been suggested that separate programs stigmatize, but special separate programs are needed until community colleges build an entire college around the assump-

tions that have produced such successful developmental studies programs. "If we have found ways to motivate, retain, and educate our most difficult clients, why not consider those strategies for the rest of our students (Roueche, 1972, p. 79)."

Since there was relatively little empirical evidence upon which to draw for supporting the hypotheses, logical evidence was presented toward that end. Of the several components of success suggested by Roueche, all but one are an integral part of the Mohegan Foundations Program. The one feature which is not fully implemented is the one dealing with separate administration and separate program. There are several reasons for that feature not being done. Mohegan's approach to that aspect is unique. Each of the three faculty members in the team is a member of a regular college division. Reading and English instructors are in the Humanities Division and the math instructor is in the Math and Sciences Division. This allows for more complete and thorough communication and cooperation with other faculty. All three instructors teach other college courses in the spring semester when enrollment in foundations courses is at a level which requires only one section rather than two. This gives students of the college other than foundations students the opportunity to receive instruction in an individualized and interpersonal manner. The integration of faculty gives other members of the instructional staff an opportunity to exchange ideas and learn

about the Foundations Program first hand.

However, there is an aspect of separateness attached to the program. Budget request are handled separately for large purchases, therefore not having to draw upon already small departmental budgets. The team instructors when functioning in the capacity of the program are responsible only to the Academic Dean. There is complete freedom to develop curriculum, calendar (within school constraints), class hours, office hours and other items sometimes reserved for separate divisions. Complete integration with the rest of the faculty make for added prestige and respect which is not always the case with remedial instructors. The math and English instructors have both been elected chairpeople of their respective divisions for the next school year. The reading instructor has been chairperson of the College's Committee on Academic Affairs for the past two years. In addition all members of the team have been promoted to the next rank over the past year. Many of the reasons for separate divisional status have been eliminated at Mohegan, or from the beginning were non-existent.

In addition to the seven "Components for Success" suggested by Roueche, Mohegan has several more which may tend to contribute to the overall success of the program and add to the rationale for the hypotheses.

1. All courses receive college credit for graduation.

2. There are no letter grades attached to foundations courses.

3. The abrupt transition from remediation to regular college courses has been eliminated for most students. This is accomplished by suggesting students take one additional regular college course (psychology, philosophy, history) along with the Foundations Program if they are planning the liberal arts program. Students who will be in career programs are urged to register for two additional courses which enable them to keep in sequence in their selected curriculum. This option permits students to get into the mainstream of the college immediately, helps them to feel "in college" and at the same time they get additional help in their course work during the foundations lab time.

Roueche (1972) concluded that there may have been three reasons why students in his study and other studies tend to drop in academic performance and have increased and accelerated attrition after they leave the developmental program.

1. They go from teachers who "care" to teachers who may have different values.

2. They go from one mode of instruction to another.

3. It is possible they have not developed enough confidence or skills necessary to compete in regular college courses.

At Mohegan, because of the integration of faculty members, and having students involved in regular courses from the beginning, students are constantly being discussed among various segments of the college. It appears that everyone cares.

In the annual report of the Foundations Team (1973) to the Administration and Faculty the following was stated:

> There seem to be several factors which make this situation possible, all of which reflect the general attitude of Mohegan faculty and administration towards students; that students in the open-admission college should not be penalized for their lack of preparedness, but should be given every opportunity to "catch up" to college performance. This is reflected in the policy that a student can receive credit for the foundations courses towards his A.A. degree. Taking a skills improvement course works to his benefit, and is in no way punitive.
>
> ...More important, the team had the support of the administration and other faculty members. This was not, however, uncritical support. The question "What's going on down there?" was frequent and one that we were committed to answer in detail... But there were some advantages to being so accountable----we worked harder to communicate...because we knew other members of the Mohegan Community cared enough to ask.
>
> Even more important to the student himself, was the atmosphere of acceptance among faculty members as a whole. Foundations students were not penalized by having been in the program, but were treated equally and honestly in subsequent courses. This atmosphere, we feel, was a critical factor in the success felt and achieved by our students both during and after the program itself.

As far as mode of instruction being different, because of the above reasons, it appears clear that faculty are trying new or different approaches, and change is occurring. Third, students who were formerly in the Foundations Program have expressed

the opinion that even if they did not get the skills necessary to compete in college courses, the confidence which they gained from the program was very important in carrying them through in other college courses.

Operational Definitions of Variables

Foundations Program as stated in the hypotheses refers to an integrated program of skills courses which include reading, English and mathematics. It includes academic and personal counseling by the team instructors involved. It represents level one of the independent variable.

Level two of the independent variable is the absence of the Foundations Program.

Persistence is defined as either graduating or being in attendance at the end of two years in the college.

Non-persistence is defined as not having completed two years of college or not having graduated at the end of two years.

Classmates are defined as having entered individual programs at the same time as those students entering the Foundations Program.

Cumulative QPA refers to the mean grade point average accumulated over the period of persistence which is two years.

Volunteers are defined as those Ss who enrolled in the Foundations Program voluntarily and without pressure.

Non-volunteers are defined as those students who en-

rolled in the Foundations Program only after having been pressured or coerced.

Operational Restatement of the Hypotheses

It is therefore hypothesized that students who were identified as having reading difficulties, by scoring at or below the 50th percentile on the Comparative Guidance and Placement Test, and enrolled in the Foundations Program for the improvement of reading, English and mathematical skills, persist for two years to a greater level of significance than those Ss who entered college at the same time and had similar reading characteristics, but did not enroll in the Foundations Program.

It is additionally hypothesized that the Ss who were enrolled in the Foundations Program and persisted have a higher accumulated mean Quality Point Average over the two year period than those classmates with similar reading characteristics who did not enroll in the Foundations Program but also persisted.

It is further hypothesized that among all Ss who enrolled in the Foundations Program and completed the experience, volunteers and non-volunteers perform equally well as far as QPA and persistence are concerned.

Significance of the Study

After three full years of the existence of the Founda-

tions Program at Mohegan Community College, it was time to objectively evaluate that program. Some of the faculty had pointed out that the program "seemed" costly, served too few students and addressed itself to the "wrong" population. It had been suggested that the resources spent on remediation should be offered to students with a "higher potential" for success. Still others had insisted that it is "missionary" work and while "very nice", is not helpful to those who would continue in college oriented careers. On the other hand some faculty claimed that students who have been through the Foundations Program appeared to be more confident, seemed to achieve higher QPA's, seemed to persist to a greater degree and to reach positions of leadership more than students who had not experienced the program. Students who had been through the program were its biggest boosters and many claimed they could not have "made it" if it were not for the Foundations Program. The team instructors and the college counselors were sure that students who had participated in the program were doing better in academic performance and persisted longer than their counterparts who did not elect the program. However, the controversy continued. There was no empirical evidence for either contention. The gnawing question remained. Were those students really doing better, or would they have done as well, or as poorly, without the program? Should the program be expanded, modified or reduced in scope?

It was hoped that this study would begin to answer some

of those questions that faculty and administration had concerning the Foundations Program and the effect that the variable had on academic performance and persistence. Also looked for were some further insights into the practices of the Foundations Program which might be responsible for the successes or failures of the program in terms of performance and persistence, and possibly attitudes. It was also hoped that the study would stimulate researchers to further investigate the effectiveness of remedial programs in other community colleges.

This study in some respects paralleled those of Roueche (1972), Schenz (1963), Berg and Axtell (1968), Snyder and Blocker (1970), Gaither (1969), Gregory (1966), Losak (1972), Handy (1966), Ludwig and Gold (1969), and Kendrick and Thomas (1970). However, it was far more extensive in scope, since it followed four freshmen classes (Classes of 1971, 1972, 1973, and 1974).

METHODS

Subjects and Procedures

Ss were selected from all entering freshmen in each of the freshmen classes from September 1971 through September 1974. Of all the freshmen who were administered the Comparative Guidance and Placement Test (CGP), this study concerned itself with those who scored below the 50th percentile and were also identified as ones who would benefit from the Foundations Program. Each fall semester those students whose CGP scores indicated a need for possible foundations courses were invited to participate in small group counseling sessions, during which time the foundations teachers and college counselors (and in later years foundations students) explained the program. Emphasis in the sessions was placed on the competitiveness of college; the heavy reading required; the necessity for being able to read widely and effectively, write term papers, reports and essays, and compute rapidly and correctly. It was stressed that these foundations courses, while not guaranteeing success, would "better" prepare students for regular courses.

It was evident that the identified group divided into three distinct categories, as follows: (1) students who knew their weaknesses, or had them pinpointed and then volunteered

for the program, (2) students who knew their weaknesses, or had them pinpointed, but did not initially volunteer (using pressure and coercion, it was additionally pointed out to these students, that while the program was not mandatory, nor was it prerequisite, it would be wise if they enrolled in the program. These students were the non-volunteers to the program). Both groups 1 and 2 were considered the treatment group. (3) The students who knew their weaknesses, or had them pinpointed, but did not elect to enroll in the Foundations Program. This third group of students chose to start their college careers in the curriculum of their choice and were considered the control group. Students in both control and treatment groups represented approximately the same number of males and females, veterans and non-veterans, students recently graduated from high school, students out of high school for several years, housewives, and retired men and women. Lloyd (1970) found that there were only slight differences between IQ and reading achievement and Searls (1969) noted that poor readers do not exhibit marked deficiencies in tested intelligence; therefore, IQ was considered to be approximately the same for both groups.

Ss in the treatment group equaled the total program population over the three and one-half year period covered by the study (N=180), since the number was comparatively small. Ss in the control group were selected in the following manner: all freshmen who scored below the 50th percentile on the CGP

were identified through the records in the counseling office. Next, using the matched-pair technique, scores equal to each score in the treatment group were isolated. Then, using a table of random numbers, one of the scores was randomly selected as the control group population (N=180). This procedure was followed for each of the four (4) freshmen classes studied.

Using the records in the office of the registrar, transcripts of all Ss were examined and a variety of data were collected for each class.

1. Class of September 1971 was followed for a period of two years for persistence and cumulative QPA.

2. Class of September 1972 was followed for a period of two years for persistence and cumulative QPA.

3. Class of September 1973 was followed for a period of one and one-half years. QPA was tested at the end of that period as was persistence.

4. Class of September 1974 was followed only for the six month period until February 1975. In that case QPA was not a factor. Persistence for treatment and control group was examined for significant differences.

Independent Variable

Foundations Program: The treatment (Foundations Program) consists of an individualized, interpersonal and interdisciplinary team approach to remediation. There are three full

time instructors, in reading, mathematics and English. A full time laboratory aide is employed for clerical and instructional duties. Several work-study students act as tutors. Tutors are recruited from former foundations students when possible. The program is basically a one semester experience, with an option to continue for another semester if the student and instructional team mutually agree on that path. The instructional team together with aides and tutors are the base for two sections of approximately 30 students each.

During the first week of the semester a series of tests and surveys is administered to each student. These tests are then evaluated by the team and diagnoses are made. Results are then used to plan an instructional program for each individual as his or her needs dictate. In prescribing materials, the team plans with the student in light of his or her goals, and with reference to objectives appropriate to the student's needs. After prescriptions have been developed, modified student-faculty performance contracts are signed with target dates for particular tasks to be completed. Instruction is given in large group sessions, small group seminars, individual conferences and laboratory. Each student is expected to attend all sessions which apply to him or her, and a total of 18 hours per week for 15 weeks is required in order for students to reasonably meet their objectives. Students and faculty together determine the areas in which students will devote larger or smaller portions of their time over a short

period; for example, two or three weeks.

The homeroom of the program is the Learning Resource Laboratory or the lab. Here students work individually on self-paced and self-instructional materials under the guidance of the instructors, work-study tutors and the lab aide. Two small rooms adjacent to the lab are used for small group instruction, usually ad hoc for immediate needs, and for individual conferences. Two large classrooms are available nearby for large group or small group sessions.

Instruction is primarily laboratory oriented, but students are not "plugged" into carrels. Very frequent individual conferences are held to discuss problems which students may be having in meeting their objectives, the means of attaining them are reviewed and then revised continually be members of the team and the student. Small group instruction is used when several students are experiencing difficulties in similar areas, or when difficulties may be anticipated by the instructor. Large group instruction is held to a minimum. The one-to-one contact which the Foundations Program affords means that students can be worked with at the moment of their immediate need, and by the professional team member who can best help. While students work in a self-paced situation, this does not preclude their being "pushed" when necessary in order that they not simply slide through.

The instructional team, consisting of the three faculty members, the laboratory aide and the work-study tutors, meet

once a week on a regularly scheduled basis. Impromptu conferences are held more frequently as needed. At these conferences the counselor who has primary responsibility for foundations students may be invited to sit in. A learning disabilities expert is on call in a consultive capacity. During one semester she was hired to do some testing and evaluation which have been helpful to the team and the college. The regular meetings are geared to assessing students' progress and problems. Here assignments are given and suggestions made for their implementation. Plans are made for interdisciplinary activities or field trips.

During the treatment periodic assessments are made and students and faculty together plan for more or less intense application for the next period. At the end of the treatment period each student meets with all three members of the instructional team in a final evaluation based on the student's original goals and prescription and any revisions made along the way. At this time students and faculty discuss the plans for the next semester. Most students elect to begin their regular course work and seek advisement as to what and how many courses they should select. At this conference a candid, realistic and definitive evaluation is made. All students are counseled in planning their next term.

Once a student has elected to become part of the Foundations Mathematics course, he is administered two diagnostic pretests, one is composed of the SRA Diagnostic Pretest with

added questions in the areas of directed numbers, linear equations, and word problems, while the other is the California Arithmetic Test for grades 7-9. These exams indicate both the strengths and weaknesses in all areas of computation: whole numbers, fractions, decimals, percents, and directed numbers, as well as in the solution of word problems and linear equations. On the basis of the student's performance with specific problems on these pretests, and personal conferences, a prescriptive program is developed which most closely meets the student's needs in mathematics and in his career planning. The materials used to implement these programs are: Arithmetic: A Modern Approach, by Keedy and Bittinger; Arithmetic by Preis and Cocks; Computational Skills with Applications by Bell and Parrish; many supplementary programmed texts and workbooks covering all levels of reading and mathematical ability, SRA Mathematics Applications Kit; SRA Graphs and Pictures; SRA Algebra Skills Kit; film strips on the topics of percentages and sets; Wollensak Teaching Tapes; Basic Mathematics Tapes by Merrill; enrichment movies, as well as various materials made by the instructor.

The Foundations Mathematics course includes the following areas of study:

1. Mathematical vocabulary and word recognition.
2. Computations with whole numbers.
3. Computations with fractions.
4. Computations with decimals.

5. Computations with percents.

6. Solution of linear equations.

7. Interpretation and solution of word problems.

8. Interpretation and drawing or plotting of graphs.

9. Computations in basic statistics.

10. Application of basic consumer mathematics.

11. Computations with directed numbers.

12. Computations and applications of Ratios and Proportions.

13. Computations and applications of English and metric measurements.

These areas of study have been restated in the form of performance objectives. Based on the instructor's evaluation of the diagnostic exams and personal conferences, the student receives:

a) a complete set of performance objectives

b) a set of general student objectives

c) a set of general mathematics objectives

If a student demonstrates a weakness in the area of factoring and prime numbers, a typical prescription can be found in Appendix A.

In the Foundations of English course, a variety of materials is used. Based on the instructor's evaluation of a writing sample, the Cooperative English Test, Part II English Expression and a personal conference, a set of objectives is drawn for each student. These may be revised throughout the

semester as necessary. In order to reach the objectives the following materials are used:

1. A programmed grammar/usage textbook, The Writing Clinic, by Ralph E. Lowe, allows a student to proceed at his own rate in problem areas. This text requires frequent sentence practice, which helps students generate types of sentences they are not used to, and introduces new vocabulary. Students evaluate their own progress by frequent self-quizzes and tests which are evaluated by the instructor. Supplementary exercises (oral and written), filmstrips and recordings, the SRA spelling lab and other commercial or teacher made materials are used when students require additional practice or reinforcement in a problem area. Small group teaching takes place when more than one student experiences difficulty in the same area at the same time.

2. Pre-composing activities, such as group discussion, are used to generate ideas and encourage students to express themselves verbally. The "oral essay" is used to stimulate writing.

3. Students are given frequent writing assignments on topics generated from classroom discussion or from short essays they have read. These include practice in writing different types of essays (description, exposition, argument, narration), short stories, essay exams, and a research paper. Appendix B shows a typical diagnostic sheet with areas of weaknesses and the appropriate prescriptive material to minimize those weaknesses.

In Foundations of Reading a similar procedure is used. Based on the battery of diagnostic tests, (Diagnostic Reading Test, Form A) placement exams, (SRA placement test), and a personal conference, the student and the instructor agree on general and specific objectives to be met by the student by the end of the semester. Target dates are set for entry into particular materials and students are constantly checked for progress, understanding of the materials, and completion of short term objectives. Materials used to reach the objectives are many and varied. Since the program is highly individualized, materials which are suited to working at one's own pace, self-correcting, diagnostic and prescriptive must be used. The materials which seem to possess those criteria to the greatest degree are the SRA Laboratories. SRA Reading Labs IIIA, IIIB, or IVA are used depending on the student's needs. SRA Reading for Understanding General Edition is used for the critical reasoning skills which are developed. Students begin working at their own instructional level based on entry level placement tests which serve as a basis for a starting point. Students are not "married" to their entry level, nor must they do all the activities in a given assignment. They go forward and back depending on their performance. The SRA materials seem to be the most comprehensive on the market. They are very diagnostic and highly prescriptive. If students are found to be making errors or having difficulties in finding the main idea, drawing conclusions, pronun-

ciation, word recognition, dictionary techniques or any other specific area, they will be directed to specific texts, workbooks, tapes, films, tachistoscopic devices, or a multitude of other materials such as the following:

Tachomatic 500	EML Reading Lab
Tachistoscope	SRA Spelling Lab
Shadowscope	Westinghouse Spelling Lab
Be A Better Reader	Barnell-Loft Skill Texts
Increasing Reading Speed	Effective Study Skills-Robinson

Appendix C shows a typical unit prescribed for a student who seems to be having difficulties in a particular dictionary skill.

The key to the use of programmed materials as used at Mohegan Community College is the instructor. One of the fallacies of programmed materials is that the teacher can leave the students almost wholly on their own. It has been said the key to learning is the teacher and not the materials. Without the constant interaction of student and teacher many areas of weaknesses would continue to be reinforced and their elimination made almost impossible. Programmed materials such as SRA are only as good as the teacher who uses them.

In Hypotheses One and Two level two of the independent variable is the absence of the Foundations Program. The students who elect not to enroll in the foundations courses are free to elect any of the conventional freshmen courses. Most students elect English 111 (freshmen composition), Math 111

(Algebra), General Psychology 111, and one or two other courses depending on the curriculum in which the student is enrolled.

In Hypothesis Three, the independent variable becomes volunteers versus non-volunteers.

Volunteers are those students who are recommended for foundations based on their scores on the Comparative Guidance and Placement Test. They are interviewed and have their weaknesses pinpointed and without hesitation eagerly enroll in the Foundations Program. These students already know their weaknesses are are relieved to have them corroborated by the admissions committee. They are anxious and happy to participate in the remedial experience and have no qualms about enrolling.

Non-volunteers are those students who are recommended for foundations based on their scores on the CGP. They are interviewed and have their weaknesses pinpointed. At this point they refuse to enroll in the Foundations Program for a variety of reasons. The counselors, faculty of the foundations team, and in many cases, former foundations students begin to apply pressure. It is stressed that it would be most unwise not to enroll in the program, since most students who should have but did not, have severe problems during the first semester and usually drop out of school. Additional suggestions are made which imply that should students with low CGP scores not enroll in the program, their chance of

survival is very slim. These students who finally give in and agree to take the program under duress, coercion and pressure are considered to be non-volunteers for the program.

Dependent Variables

Persistence refers to the student graduating at the end of the expected two year period, or his or her continued registration at the college for two years. It refers to a one and one-half year period for the class of 1973 and a six month period for the class of 1974.

Quality Point Average (QPA) is considered the cumulative mean grade point average which a student had accumulated during the period of persistence. For the classes of 1971 and 1972 it is the two year cumulative QPA. For the class of 1973 it is a one and one-half year cumulative QPA. No QPA has been determined for the class of 1974 since the foundations courses do not carry letter grades, and the period is only one semester.

The QPA is arrived at by the use of a grade scale where A=4, B=3, C=2, and D=1. There are no grades of F in the marking system at Mohegan. The grade of NC (no credit) is recorded for withdrawals, incompletes, audits, and inability to complete course requirements. There is no numerical equivalent to the NC; therefore it is not figured in the QPA.

Control Variables

The major control variable in this study was reading

level as determined by scores on the Comparative Guidance and Placement Test (CGP). All subjects in the study scored at or below the 50th percentile, except for the class of 1971, when the cutoff score was at or below the 45th percentile.

The rationale for choosing the 50th percentile as the cutoff point for placement in the Foundations Program was that the CGP advisory staff suggested that any student scoring below the 50th percentile would be expected to experience difficulty in college. The expectation was that the lower they scored below the 50th percentile, the less chance they would have to succeed.

The Comparative Guidance and Placement Program was designed to report and analyze both individual and group data that are collected via a three to three and one-half hour comprehensive battery containing two inventories and six tests.

The reading test of the CGP consists of brief passages followed by items that measure a student's comprehension of specific details and ideas, ability to make inferences, and the ability to get meaning of vocabulary from context. Scores differentiate among students who are adequately prepared for college and those who need remediation. The scores are used for placement in appropriate English classes.

The Kuder-Richardson formula 20 (K-R20) estimate of reliability was used to obtain a correlation coefficient between scores, and it was found to be .88 on the reading sub-test.

The CGP staff enlisted the aid of faculty members of two year colleges in developing the new Reading, Sentences, and Mathematics tests in an attempt to establish their content validity. The result was the items appearing in the tests represent those skills that the typical entering two year college freshman needs to have, and the tests are appropriate to the backgrounds of such students.

Design

This ex post facto study used the criterion-group design as described by Tuckman (1972).

$$\begin{array}{ll} C & O_1 \\ \hline & O_2 \end{array}$$

Data Analysis

The statistical procedures used for this study were the chi-square test and the t-test, as follows:

(1) t-test for significance of QPA differences

(2) chi-square test for significance of persistence differences.

Interviews of selected subjects in the treatment group were conducted to determine reactions to the unique features of the Foundations Program. Responses were examined and reported on, but no statistical test was used to determine significance. Students were randomly selected from the class lists of previous foundations classes to receive a one page

questionnaire. Two hundred questionnaires were mailed with one hundred thirty-nine responding. Ss were asked to respond to any or all the questions on the mimeographed sheet. They were asked not to indicate their name in any way. Since the returns were good, another mailing was not considered necessary. The responses were typed, and comments pertinent to factors considered significant were reported on in the DISCUSSION of this study. A facsimile of the actual questionnaire is included as Figure 1.

Student Evaluation of Foundations

Please answer any or all the following questions in detail, as they apply to all three instructors and all three courses in Foundations. Answer on a separate sheet.

I. 1. What did you think about the teachers in the following terms:

A. their knowledge of subject matter
B. their ability to explain and help you improve your skills
C. their relationship to you in terms of how they treat you as a student and a person
D. their responses to criticism or suggestions

2. Have the instructors done more for you than help you learn the subject, or have they done little which has been of any value to you?

II. 1. What are your feelings about the methods of instruction used in any of the Foundations courses?

2. Overall, was the program an aid in improving your skills?

3. Did you have enough feedback from the instructors to know exactly how you were progressing in each subject?

III. 1. Do you feel more confident in your ability to do college work as a result of the Foundations Program?

2. Was Foundations a good transition between high school and college courses or was it not too helpful?

3. Do you think improvement in one area of Foundations leads to improvement in any of the others?

4. Would you recommend this program to other students?

5. Do you think more students, or fewer, should take this program?

Please feel free to add other comments not covered by these questions.

Figure 1. Form for the Evaluation of Foundations Program

RESULTS

Hypothesis One

Ss enrolled in a Foundations Program have greater persistence in college than classmates with similar reading characteristics, who were not enrolled in a Foundations Program.

Table 1 shows the results of a chi-square test to determine if there was any significant difference between the two sample proportions. Foundations students were found to have greater persistence than non-foundations students, as hypothesized, at the .001 level of significance ($X^2 = 20.16, df=1$).

Table 1

Comparison of Persistence Among Foundations and Non-foundations Students in the Classes of 1971-74 (N=372)

	Foundations	Non-foundations		X^2
Persisters	117	78	195	20.16*
Non-persisters	64	113	177	
	181	191	372	

* $p < .001$

Tables 2-5 show the year by year results comparing persistence of foundations and non-foundations students.

Table 2 shows that foundations students had greater persistence than non-foundations students, in the year 1971, at the .025 level of significance ($X^2 = 5.142, df=1$).

Table 2

Comparison of Persistence Among Foundations and Non-foundations Students in the Class of 1971 (N=64)

	Foundations	Non-foundations		X^2
Persisters	19	9	28	5.142*
Non-persisters	13	23	36	
	32	32	64	

* $p < .025$

Table 3 presents a chi-square analysis of persistence for the Class of 1972 (N=82). The results indicated that foundations students had greater persistence for the two year period of attendance than students who had not participated in the program ($X^2 = 4.06, df=1, p < .05$).

Table 3

Comparison of Persistence Among Foundations and Non-foundations Students in the Class of 1972 (N=82)

	Foundations	Non-foundations		X^2
Persisters	22	12	34	4.06*
Non-persisters	12	29	48	
	41	41	82	

* $p < .05$

The results of a chi-square test to determine the significance of the difference between the two sample proportions show clearly there is a significant difference in persistence favoring the foundations students for the one and one-half years of attendance. Table 4 shows the obtained frequencies. Since the calculated value of X^2 exceeded the critical value of X^2 ($X^2 = 4.00$, df=1) the hypothesis was accepted at the .05 level of confidence.

Table 4

Comparison of Persistence Among Foundations and Non-foundations Students in the Class of 1973 (N=100)

	Foundations	Non-foundations		X^2
Persisters	30	19	49	4.00*
Non-persisters	20	31	51	
	50	50	100	

* $p < .05$

Results of testing the significance of the difference between the two groups (foundations and non-foundations) in terms of persistence is found in Table 5, for the year 1974. The total foundations and non-foundations population of the Class of 1974 was used for this analysis. Examination of the contingency table reveals that the greater persistence of students in the Foundations Program was highly significant at the .01 level of confidence. Persisters for the Class of 1974 were those registering for the second semester, after completing the first semester.

Table 5

Comparison of Persistence Among Foundations and Non-foundations Students in the Class of 1974 (N=126)

	Foundations	Non-foundations		X^2
Persisters	46	38	84	6.71*
Non-persisters	12	30	42	
	58	68	126	

* $p < .01$

Hypothesis Two

Ss enrolled in a Foundations Program and who have persisted have higher cumulative Quality Point Averages (QPA's) than classmates with similar reading characteristics who were not enrolled in the Foundations Program, but have also persisted.

Table 6 shows the mean and standard deviations for foundations and non-foundations students who persisted from the Classes of 1971-1973. The results of a t-test indicate that the foundations students, as hypothesized, have significantly higher cumulative QPA's than non-foundations students ($t=2.06$, $df=109$, $p < .05$).

Table 6

Comparison of Mean QPA's and t values for Foundations and Non-foundations Students in the Classes of 1971-73

	N	Mean	S.D.	t
Foundations	71	2.47	.645	2.06*
Non-foundations	40	2.20	.700	

* $p < .05$

Tables 7-9 show the year by year results comparing the mean QPA's and t values for foundations and non-foundations students.

Mean and standard deviations are shown for foundations and non-foundations students who persisted (Class of 1971) in Table 7. The results of a t-test indicate that the foundations students have significantly higher cumulative QPA's than non-foundations students ($t=2.139, df=26, p < .05$).

Table 7

Comparison of Mean QPA's and t values for Foundations and Non-foundations Students in the Class of 1971

	N	Mean	S.D.	t
Foundations	19	2.75	.413	2.139*
Non-foundations	9	2.35	.583	

* $p < .05$

Table 8 shows the results of a t-test comparing the mean of foundations students (2.63) and non-foundations students (2.59). Although the mean QPA of the foundations students was a bit higher than the mean QPA of the non-foundations students, the calculated value of t did not exceed the critical value of t and therefore the hypothesis was not accepted for this class.

Table 8

Comparison of Mean QPA's and t values for Foundations and Non-foundations Students in the Class of 1972

	N	Mean	S.D.	t
Foundations	22	2.63	.466	0.176
Non-foundations	12	2.59	.542	

p=ns

Table 9 shows the mean and standard deviations of foundations and non-foundations students who persisted for the defined time. It is clear that the foundations students had a higher cumulative QPA than the non-foundations students as predicted. However, when the means were put to the t-test to determine statistical significance, it was found that the calculated value of t did not exceed the critical value of t at the desired (.05) level of confidence.

Table 9

Comparison of Mean QPA's and t values for Foundations and Non-foundations Students in the Class of 1973

	N	Mean	S.D.	t
Foundations	30	2.19	.641	1.538
Non-foundations	19	1.89	.722	

p=ns

Hypothesis Three

Among those Ss who have had the Foundations Program, volunteers and non-volunteers do equally well with respect to persistence and cumulative QPA.

In this hypothesis, the prediction was, that for students who enrolled and completed the Foundations Program, persistence would not be significantly different whether they were volunteers or non-volunteers. The prediction also was that for those volunteers and non-volunteers who enrolled, completed the course, and persisted, there would be no significant difference in their cumulative QPA.

Table 10 shows the results of a chi-square test for persistence of volunteers and non-volunteers in the Foundations Program (Classes 1971, 1972, and 1973). Of the total number (N=119) completing the experience, it is evident that there was no significant difference in persistence between the two groups.

Table 10

Comparison of Persistence - Volunteers and Non-volunteers

Classes of 1971-1973

	Volunteers	Non-volunteers		X^2
Persisters	45	33	78	.53
Non-persisters	20	21	41	
	65	54	119	

p=ns

Tables 11-13 show the year by year breakdown of persistence for volunteers and non-volunteers.

Table 11 shows the results of a chi-square test for pertence of volunteers and non-volunteers in the Foundations Program. Of the number (N=34) completing the one semester experience, it is clear that there was no significant difference in persistence between the two groups.

Table 11

Comparison of Persistence - Volunteers and Non-volunteers

Class of 1971

	Volunteers	Non-volunteers		X^2
Persisters	10	14	24	.472
Non-persisters	4	6	10	
	14	20	34	

p=ns

Illustrated in Table 12 are the results of a chi-square test comparing volunteers and non-volunteers to determine if there were any significant difference in persistence for the Class of 1972. There were a total of 40 students who completed the program of one semester's duration. The analysis substantiates the hypothesis. There was no significant difference between those who volunteered and for those who did not volunteer as far as persistence was concerned.

Table 12

Comparison of Persistence - Volunteers and Non-volunteers

Class of 1972

	Volunteers	Non-volunteers		x^2
Persisters	18	6	24	1.652
Non-persisters	8	8	16	

p=ns

In the Class of 1973 there were 45 students who completed the Foundations Program. Table 13 shows that 17 of the 25 volunteers persisted, and 13 of the 20 non-volunteers persisted. The data was submitted to a chi-square test to determine if there was a significant difference between the two groups. The results showed that, as hypothesized, there was no significant difference between the volunteers and non-volunteers as far as persistence at the college was concerned.

Table 13

Comparison of Persistence - Volunteers and Non-volunteers

Class of 1973

	Volunteers	Non-volunteers		X^2
Persisters	17	13	30	.632
Non-persisters	8	7	15	
	25	20	45	

p=ns

Table 14 is the result of a t-test to determine if there was any significant difference between the means of the volunteer group (2.44) and the non-volunteer group (2.27) for the Classes of 1971, 1972, and 1973. The table illustrates clearly that the difference was not significant, however, the volunteers' mean QPA was slightly higher. Therefore, the second part of Hypothesis Three is accepted as stated.

Table 14

Comparing Mean QPA's of Persisting Volunteers and Non-volunteers Classes of 1971-1973

	N	Mean	S.D.	t
Volunteers	45	2.44	.90	.971
Non-volunteers	33	2.27	.71	

p=ns

Tables 15-17 show the year by year results comparing the mean QPA's of the volunteers and the non-volunteers in the Foundations Program.

Means and standard deviations are shown in Table 15 for volunteers and non-volunteers in the Class of 1971. Results of a t-test to determine if there was any significant difference between the means of the volunteer group and that of the non-volunteers showed that the difference was not significant.

Table 15

Comparing Mean QPA's of Persisting Volunteers and Non-volunteers Class of 1971

	N	Mean	S.D.	t
Volunteers	10	2.66	.411	.245
Non-volunteers	14	2.61	.539	

p=ns

The results of a t-test to determine the significance of the difference between the means of both groups is shown in Table 16. The volunteers' mean QPA (2.60) is quite a bit higher than the non-volunteers (1.92), but when the data was submitted to a statistical test for significance, it was found that the calculated value of t did not exceed the critical value of t and therefore was not significant at the desired (.05) level of confidence. Therefore the directional hypothesis, as stated, was accepted.

Table 16

Comparing Mean QPA's of Persisting Volunteers and Non-volunteers Class of 1972

	N	Mean	S.D.	t
Volunteers	18	2.60	.896	1.507
Non-volunteers	6	1.92	1.176	

p=ns

Comparisons of the means of both groups indicated that the volunteers had a slightly higher mean QPA. The data was submitted to a t-test to determine statistical significance. It is shown in Table 17 that, as hypothesized, there is no significant difference between the mean QPA of the volunteers who completed the program and the non-volunteers who completed the program.

Table 17

Comparing Mean QPA's of Persisting Volunteers and Non-volunteers

Class of 1973

	N	Mean	S.D.	t
Volunteers	17	2.153	.752	.323
Non-volunteers	13	2.077	.462	

p=ns

DISCUSSION

In reviewing the literature it was found that many of the evaluations of remedial programs were done after students had completed only one semester of the experience. Usually the data tested were for determining persistence, defined as registering for the following semester, and QPA after the first semester. In other studies, evaluation occurred after completion of the one semester program and a follow-up was done after the following semester. There were several studies done which had no control, merely reporting on the improvement of QPA from one semester to another, or the decline of QPA from one semester to another. In several cases remedial programs were compared with other remedial programs. There were many studies done for periods of one semester to four semesters, but in all situations there were either no control groups or the same class was followed over the period of observation.

In the literature there was no remedial program evaluated as extensively as the Foundations Program in this study. Since this study was ex post facto, it was necessary to reduce threats to the internal validity by controlling extraneous variables which might influence the outcome. Therefore the study followed all identified potential remedial students entering the September freshman class for each year starting

with 1971 and ending with the class of 1974.

Results Summarized

The results of this study are summarized as follows:

1. Students who had enrolled in the Foundations Program were found to have greater persistence in college than their classmates, who had similar reading characteristics and had not enrolled in the Foundations Program.

2. Students who had enrolled in the Foundations Program, and who had persisted for the defined period were found to have had higher cumulative Quality Point Averages (QPA) than their counterparts who had not been in the program.

3. It was found, as predicted, that whether a student volunteered for the program, or was pressured to enroll in the program (non-volunteer), he performed equally well as far as QPA was concerned. He also persisted to the same extent. The results did show that volunteers in each year had a slightly higher mean QPA than the non-volunteers; however, in no case were they significantly higher.

What do the findings mean? What was happening within the treatment which made the Foundations Program successful?

In searching for reasonable answers to account for the success at Mohegan Community College, further reference to the literature and selected interviews with former students were made. These interviews will be scattered throughout the discussion section to substantiate some related literature

and the research in this study.

Roueche (1972) suggested a list of components which he said greatly reduce rapid acceleration of attrition and deterioration of academic performance of students after they entered the regular college curriculum. Mohegan has many of those components in its Foundations Program and it appears that there has been a significantly reduced rate of attrition and significantly higher academic performance on the part of former remedial students after they enter the regular college curriculum.

Components of Success

This section will deal with several of the factors which are considered to be requisite for a successful remedial program.

Teacher attitudes and expectations. Moore (1970) credits failure in remediation programs, among many factors, to the teacher. He quotes a comment which he says reflects the attitude of many junior college remedial teachers: "If a student didn't learn how to make a subject and verb agree in twelve years of schooling, how can I teach him in college." One wonders whether the student will fail because of his inability to learn, or because of the teachers' expectations. The Mohegan team instructors are fully committed to teaching these kinds of students. (NOTE: Quotations used in the remainder of the DISCUSSION section, appearing without citation will be those of students interviewed anonymously).

"For me, they have done more than just teach a subject. They have shown they really care about their student's future. Most important they help us at our convenience, when we need them. They never turn you away."

Bossone (1966) stated that research has shown that the inexperienced faculty member is the one most often found in remedial classrooms. Roueche (1968) wrote: "Inexperienced teachers are considered unprepared to serve on major committees, but yet are given one of the most difficult teaching assignments." Mohegan's team instructors are very experienced and knowledgeable in their respective disciplines. The reading instructor has had almost two decades in a variety of related situations, ranging from teaching in the grades through graduate school. He served in administrative positions for five years. The math and English instructors bring with them a combined total of over 10 years of expertise in their subjects.

"I think the teaching methods were really great. I never learned so much in so little time."

"I can't read very well, and I learned more in one year than I did in four years of high school."

"The teachers are the best in the state, and they really care for the well-being of "each" student."

It has been said that it is rare to find a permanent faculty member assigned to the remedial program. When one is found he or she is usually not considered to be outstanding

on the faculty. The three members of the foundations team are permanent faculty and are considered outstanding members of the instructional staff. This is evidenced by each of them being promoted to the next higher rank after only two years at a lower rank and each having chaired key faculty committees, having served as faculty senators, and having been division chairpersons. Promotion and election to faculty committees are done by the faculty alone. Each team member has been sought by other members of the staff for assistance in problems with particular students, or in general for bringing basic skills to the classroom. All the instructors have been asked to lecture in their individual areas of expertise by their academic peers, and to do that during the regularly scheduled classroom period.

Roueche (1968) pointed out that teacher attitudes are probably related to student achievement; accordingly no teacher should be assigned to remedial classes who prefers not to do it.

"Unlike other classes, people here want to help you, not flunk you."

"For a teacher to show a personal interest is really great."

"They are concerned with the individual student and with their well-being."

Some evidence is provided by Brophy and Good (1970), and Silberman (1969), Rubovits and Maehr (1971), Beez (1968), and Rothbart, Dalfen and Barret (1971) that, in fact, teachers'

attitudes and expectations about their students are revealed in their classroom behavior and are thus communicated to the student. Little evidence is available, however, on the direction in which such expectations are likely to operate to either help or hinder particular students. It is felt by the foundations team that their attitudes towards students in the program have helped.

"These instructors have done more for me than just help me in their subject. They have taken a special concern for my welfare."

"They never made me feel incompetent because I lacked many skills."

Differentiated diagnosis and appropriate prescriptions. Dubois and Evans (1972) are highly critical of remedial programs in general. They point out that students typically assigned to remedial programs generally fall into two groups, the "slow learners" and the "academically naive". The first category of slow learners are described as mentally immature and generally unable to attain sufficient ability to satisfy the intellectual demands of higher education. According to Johnson (1963) retarded learning ability leads to adjustment problems and therefore grasping academic instruction is affected directly or indirectly.

The second category of underachievers, the academically naive, are those who despite average or above average intelligence have not developed academic skills. Dubois and Evans (1972) state that these students' deficiencies come from in-

adequate or inappropriate educational environmental experiences rather than from intellectual deficiencies. They point out that most remedial programs do not differentiate between the two groups and teach them in similar modes. They suggest closer attention to diagnosis will differentiate between developmental learning and remediation.

The Foundations Program attempts to do that. It is highly diagnostic and prescriptive. Students are given individual and group evaluation and prescriptions are developed based on the needs of the student, the requirements of the school, and the student's future goals. In many instances, in addition to the "slow learner" and the "academically naive", others are discovered who have neurological and/or organic involvement, or who are functioning at a low level primarily because of a psychological disturbance, or who have limited intellect, or who have a cultural background different from the majority of the students at the college.

After these groups are identified and diagnosed, as well as possible, the techniques of intervention are usually quite different for each group. A possible reason for so many remedial programs not succeeding is that these differences go unnoticed and may not be taken into account. In many remedial programs students are "carrelled" and rarely see the light of day. They are self-paced and have audio-tutorial instruction which seem appropriate for these students, however they rarely see a qualified teacher for interaction. Lab aides and tutors are primary resources in these programs.

"The one-to-one teaching made the course. It made me feel like a person and not just a number."

"I wish they had more subjects taught the way foundations are handled. The teachers make you eager to learn."

In the foundations team instruction is varied according to the needs of each student. The same teaching technique is not used to work with students who are very different.

Fader (1971) stressed that curricula should be shaped to the student rather than the student to the curricula. By pointing out weaknesses and strengths, and developing individual objectives for each student, the curriculum is shaped to the student. The team approach of individualizing instruction and exposing students to a wide range of learning experiences, rather than the large group, single teacher approach seems to contribute to successful remediation at Mohegan.

"Yes, I realized that I was weak in a lot of things. Some of my weak points I never realized until they were brought to my attention. I never realized, though, that I had some strengths."

Fader (1971) additionally pointed out that homogeneous remedial classes reinforce failure. In many remedial programs there are homogeneous groupings not only for the basic skills of reading, writing, and math, but also for social sciences, natural sciences and the humanities. Roueche (1973) stated that in many efforts aimed at remediation, those homogeneous types of groupings usually get watered down versions of regular college courses.

Heterogeneous grouping where there is cooperative learning which enables remedial and better qualified students to share equally in learning, is more desirable. At Mohegan, the concept of isolating remedial students from the mainstream of the college is greatly modified. The Foundations Program consists only of basic skills, such as reading, writing, math and study skills. Students in the Foundations Program are strongly counseled to register for one or more conventional subjects at the college in order to benefit from the cooperative learning inherent in heterogeneous groupings, and thus to transfer the skills being developed to the heavy demands of the conventional courses.

Goals of program. It has been stated by some (Roueche, 1968, Gold, 1965, Schenz, 196), Thelen, 1966, and Berg and Axtell, 1968) that the ineffectiveness of remedial programs may be due in part to uncertainty about what the basic goals are, in part to trying to do miraculous things for students, and in part to including characteristics in the program which are ineffective with respect to student achievement. The skills courses taught by the team have the primary goals of "better" preparing the underprepared student to cope and compete in the regular or conventional college classroom. This is thought to happen by first developing the confidence of the students and then by equipping them with the basic skills needed to maintain their confidence. With students enrolled in regular college courses at the same time as they are enrolled in foundations courses, the team is better able to

insure that the skills being developed are transferred to those courses. The Foundations Program does not pretend to stimulate the intellect, or develop expert writers, keen mathematicians, fluent and voracious readers, or to perform miracles.

"Overall, the program is definitely an 'Improving your skills' type of course. I am happy to say I really feel more confident in my own ability to do successful college work."

"They have done more by showing us how to attack all kinds of problems and how to relate them to other subjects."

"I think the program is excellent for improving your skills. If you have any problems in any subject, there is no better course than foundations."

"I recommend this course to anyone who has comprehension problems as I did. I really feel that I can walk out of this class and conquer all."

The Foundations Program and its team approach strongly emphasizes the innate worth of the individual student and the instructors strive to develop a positive self-image.

Counseling for success. "If there were no foundations at Mohegan it would take away any hopes for someone like me to do respectable work in college."

"Each of us was treated with respect."

"I walked away from this course with more confidence."

"No one pushed you or degraded you if you didn't know something."

"I feel a lot smarter now."

"They noticed our ups and downs, and helped us clear them up."

The heavy counseling which students receive from the team while they are in the program and after they leave seems to have an effect on persistence and good achievement. At the end of each semester, students are counseled by the team as to what courses they might feel comfortable with at that point. They are urged to take only as many courses as they can reasonably handle (usually four). They are encouraged to take as long as necessary to reach their goals and not to be tricked by the myth of the "two year college". The instructors suggest that students take as long as necessary in order to complete their objectives. In subsequent semesters the team instructors are sought by former students for guidance and direction. Students return frequently to "show" a good English composition, an outstanding essay exam, a passing mark in calculus, to announce their forthcoming engagement, imminent marriage, relate a broken engagement, reveal the death of a loved one, announce acceptance to a four year college, or the nursing school, a job offer, or a dozen other reasons. The team instructors continue to praise, reinforce, bolster, support and even cajole when necessary. Students in short have said, "We feel free to approach you and hold a friendly conversation, because we know you still care about us."

From one student the following quote seems to sum up how many students feel.

"I regret that this semester will be over soon. The sad

part of this is that we are one big happy family and very soon we will have only memories of good and bad times shared together. From the bottom of my heart I thank you for all the patience and help you have given me."

Summary and Recommendations

The persistence and QPA performance of the experimental group exceeded that of the control group, and differences at .05 or beyond favoring the experimental group were found for Hypotheses One and Two. All the tests of significance for Hypothesis Three proved to be not significant, as hypothesized. This consistent pattern clearly supports the conclusion that the foundations experiences were effective.

Based on the findings of this study, including student interviews and related literature dealing with success in remedial programs, it is reasonable to conclude that the Foundations Program at Mohegan Community College is successful because of the following reasons:

1. The faculty who are teaching the courses want to teach high risk students.
2. Instruction is geared to the individual's needs.
3. Lectures are kept to a minimum.
4. Diagnosis of each student is thorough and objectives which are measurable are prescribed for each participant.
5. A variety of instructional modes are used based on the learning styles of the student.

6. Faculty are highly effective in their disciplines and are humanistic, honest and fair.

7. Each student is considered a worthwhile human being with much to offer.

8. The program enjoys a fine image in the institution, in the eyes of faculty and students. Faculty are particularly supportive of the program. Faculty and administration consider team instructors as outstanding teachers and respect their position at the college.

9. The counseling aspect of the program is emphasized and the team approach is used while students are in the program and after they leave.

10. A strong commitment to the program on the part of the administration is evidenced in the support and freedom which the team has in developing the program.

11. The fact that the foundations team and program are not a separate division with separate administration and budget apparently reduces the bureaucratic nature of many separated remedial programs. Each team instructor is a member of a division in which his discipline lies. This seems to make for smoother relationships and quick communication. The program is considered an integral part of the college.

12. The team has an understanding of the primary goals and mission of the program, which are:

a. to "better" prepare students for college level courses through the development of

reading, writing, math and study skills

b. to improve the self-image of each student

c. to develop confidence necessary to cope with the heavy demands of conventional courses

13. The transition from remedial courses to conventional courses is not abrupt. Most students do not "enter" the regular college curriculum. They are already there.

14. College credit is granted for the foundations courses which can be used as full credits toward the 60 credits needed for graduation.

15. Letter grades (A,B,C,D,F) are not used in the grading system. Each student works at his own pace and level of instruction, and receives a passing grade "P" or no credit "NC" for either reaching or not reaching his objectives, as mutually agreed between the student and the team.

16. The remedial students do not leave the so-called "protective environment" for the real world of "college". They leave caring teachers in the remedial program to more of the same caring kind of teacher in the college who have similar values as the remedial teachers.

The research seems to lend support to the literature dealing with success in remediation programs. It appears to substantiate Roueche's (1972) "Components of Success", and his contention that implementation of those factors will reduce the rapid acceleration of attrition and deterioration of

academic performance when students enter the regular college curriculum.

The implication is that there appears to be a strong relationship between having had the foundations courses, and persistence and improved academic performance at the college.

An inference which can be drawn is that when students are treated with respect, work at their own pace and develop confidence, performance is improved and persistence is increased. These conclusions can have great impact not only for remedial students but all kinds of students at Mohegan, and at colleges throughout the state and country.

There were several limitations in this study. Because of the ex post facto nature of the study, no control via assignment over the groups used as control and experimental was possible. In order not to diminish the number of students available (N=445), only one variable (all students below the 50th percentile on the CGP) was used in matching experimentals and controls. Variables such as sex, IQ, age, socioeconomic background, race, reading test scores, would have reduced the matched samples to a very small number. The fact that the control group was made up entirely of non-volunteers, while the experimental group was composed of volunteers and non-volunteers, could lead one to suspect the experimental group would have greater motivation and therefore persist to a greater extent. This variable or bias was dealt with by not measuring persistence or QPA until students were well beyond the program's walls.

The results of this study suggest that a thorough and systematic research project be done on affective variables since cognitive variables have proved significant. There is also indicated a need for additional research into the characteristics of persisters in both groups. One item needed to be measured and tested and which was not addressed in this study is the effort expended by control persisters as compared to experimental persisters in the act of persisting.

Another study which might be considered by the institution is one in which those students who scored above the 50th percentile be compared to those who scored below the 50th percentile on the CGP to determine if there are any significant differences in the area of persistence between those groups.

On the basis of the findings in this study several additional recommendations are made: These recommendations will be included in the Annual Report of the Foundations Team, and copies will be forwarded to the President of the College, the Academic Dean, and the Curriculum Committee for their information and consideration.

1. In order to further meet the needs of additional high risk students, and do a more thorough diagnosis before and after they enter college additional staff should be added to the remedial program as follows:

   a. psychologist

   b. speech and hearing pathologist

c. social worker

d. learning disability specialist

e. full-time counselor assigned to foundations

2. Consideration be given to the expansion of the Foundations Program to make the opportunity available to larger numbers of high risk students.

3. Consideration should be given to extending the techniques found effective for remedial students to students in the conventional college courses.

4. The institution should commit itself to the client centered approach of educating more of the people in the community than we are currently reaching. A school is needed which would meet the needs of a large portion of the community. The college might never meet the ideal of being "all things to all people", but it could at the very least, be "a lot of things to a lot of people."

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Appendix A

MATHEMATICS OBJECTIVE SHEET (Math 098)

The student will complete the following objectives with 90% accuracy.

	OBJECTIVE	ASSIGNMENT
___	1. Write what is meant by "to factor" or "to find the factorization of".	_____
___	2. Given a number, list its factors.	_____
___	3. Define what is meant by a multiple of a number.	_____
___	4. Given a number list some of its multiples.	_____
___	5. Define prime number and composite number.	_____
___	6. Given a number between 1 and 50, tell whether it is a prime composite or neither.	_____
___	7. Use the Sieve of Eratosthenes to find all primes less than a given natural number.	_____
___	8. Find the prime factorization of a given natural number.	_____
___	9. Define what is meant by the greatest common factor.	_____
___	10. Given any two or more natural numbers be able to list the greatest common factor.	_____
___	11. Define least common multiple.	_____
___	12. Given any two or more natural numbers be able to list the least common multiple.	_____

Remarks:

1. Before beginning these objectives study the vocabulary list and read through all the objectives to get an overview of the unit.
2. Before taking the unit exam work the self-test on p. 118 in Arithmetic by Pries and Cochs.

Appendix B

INDIVIDUAL OBJECTIVES (ENG 099)

Name _____

Section _____

I. WRITING CLINIC by Ralph E. Loewe _____

Chap. 1: Diagnosis Essays _____

Chap. 2: Simple Sentence
Subject-Verb _____

Chap. 3: Simple Sentence
Inverted Sentence _____

Chap. 4: Subject-Verb Agreement
Plurals of Nouns _____

Chap. 5: Compound Sentence
Run-on and Comma Splice _____

Chap. 6: Complex Sentence
Sentence Fragments _____

Chap. 7: Sentence Structure Review _____

Chap. 8: Punctuation _____

Chap. 9: Verb Tense _____

Chap. 10: Problem Areas
(capitalization, possession, contractions, pronouns, etc.) _____

Estimated Completion Date: _____

II. SRA SPELLING LAB _____

Estimated completion date: _____

III. English As A Second Language Exercise _____

Estimated completion date: _____

(CHAPTERS) _____

IV. SUPPLEMENTARY EXERCISES (as needed)

1. Verbs
   Series A, B, C _____

2. Subjects
   Series A, B, C _____

3. Subject-Verb Agreement
   Series A, B, C _____

4. Punctuation
   Series A, B, C _____

5. Capitalization
   Series A, B, C _____

6. Run-on Sentences
   Series A, B, C _____

7. Sentence Fragments
   Series A, B, C _____

8. Other _____

Appendix C

PERSONALIZED INSTRUCTIONAL UNIT NUMBER 5

Topic: Special Sound Symbols used in Pronunciation

Approximate working time: 1-2 hours

RATIONALE

This unit has been prepared to teach the student special symbols which are used to pronounce certain combinations of English letters. When the student completes this unit he will have mastered this ability to pronounce words with heretofore unrecognizable sounds. In addition he will be fully able to use his dictionary to sound out all unknown words he meets.

OBJECTIVES

1. Given a pronunciation key, the student can demonstrate an understanding of the relationship between the pronunciation of a known word and its phonetic respelling 100% accuracy required.

2. Presented with a pronunciation key and phonetic respellings, the student can demonstrate that he recognizes the function of diacritical marks, syllables and accent marks as he pronounces preferable unknown words with 100% accuracy.

3. Given a paragraph printed in phonetic symbols, the student will employ the pronunciation key to translate the material to English words and then answer three questions relating to the paragraph. Student will answer with 100% accuracy.

4. Given five known words and a pair of similarly constructed phonetic respellings (except for diacritical markings) the student will be able to evaluate the spellings and select the correct one of the pair. One error permitted.

5. Given 10 sentences the student will fill in the blanks in each sentence by choosing one of the three possible responses written in phonetic respellings. 100% accuracy

"There are several more objectives to this unit."

6. The students will listen to five unknown words read by the instructor. After hearing each word the student will construct the phonetic respelling for each word using the pronunciation key. One error will be allowed.

7. Given a dictionary which has diacritical marks differing from those with which the student is familiar the student will pronounce 10 unfamiliar words with 90% accuracy.

8. The learner will possess a personal dictionary and use it frequently to "look up" unknown words. He will do this in his reading class as well as in other situations.

PRE-TEST

There is no pre-evaluation required for this unit. If you have worked through Units 3 and 4 you should work through this one completely.

MATERIALS

Materials needed for this unit are the same as for Units 3 and 4. Be sure you have your pronunciation key available for use.

PROGRAM OF INSTRUCTION

This unit completes the series of units in which you have been developing the skills of using the pronunciation key of a dictionary. Here we will be dealing with the other sounds of the vowels and some additional consonant sounds. Also we will introduce to you one of the most important special sounds in a dictionary. The SCHWA. This sound is used more frequently than any other vowel sound. Learn it well.

LEARNING ACTIVITIES

1. Once again you should refer to your text, Basic Dictionary Skills, Scott-Foresman. It is important that you read carefully Page 41. After reading turn to Page 42 and begin the sample exercises on that page and then continue to do similar exercises on Pages 43 and 44.

2. In the EDL Laboratory Reference Skills Level GCG you should do Card #8.

3. In the Workbook Developing Reading Skills you will find a very excellent activity for learning the SCHWA. Turn to Page 51 of Book C.

4. In the Reader's Digest Advanced Skillpad, you will find on Page 76 a series of Exercises which will take you through all the previous skills learned. Do Ex. A-F

5. In the EDL Laboratory Reference Skills III, you are encouraged to do Card #9 for another fine activity.

6. In Be A Better Reader, Book IV you will find a page from a dictionary and some accompanying exercises. Turn to Page 57 and see how well you can use an actual dictionary page for pronouncing words.

7. In Book D of Developing Reading Skills, there is an additional exercise which will give you practice in the skills learned in Unit 5. Turn to Page 37 and do the exercises.

8. Some very challenging activities which will give you advanced practice may be found in Tactics in Reading Book II. Page 36, entitled Using a Pronunciation Key.

9. In Tactics in Reading Book I, additional challenging exercises dealing with special sound symbols will be found. On Page 40, do Exercise 3, Parts A and B, and on Page 41 do

Exercise 4, Ex. 5 and Exercise 6 Questions 4 and 5.

10. If at this point you are still having any difficulty in pronouncing words in a dictionary you should see your instructor for a personal conference and possible additional learning activities.

Go on to Post-Evaluation!

VITA

Howell Aarons was born on May 17, 1931, in Brooklyn, New York to Philip and Shirley Aarons. He attended elementary and secondary schools in Brooklyn, New York graduating from James Madison High School in 1949.

In June 1953 he received the Bachelor of Science degree in elementary education from New York University. The Master of Arts degree in administration was conferred in June 1958 from the University of Connecticut. In June 1960 he received a sixth year Certificate of Advanced Graduate Study in reading from the University of Hartford.

From January 1954 until June 1966 he was a teacher in the East Hartford public schools, teaching in Grades 5, 6, 7 and 8. From September 1966 until June 1971 he served as elementary school principal in the same school district.

From September 1971 until the present time he has been an instructor and assistant professor of reading at Mohegan Community College in Norwich, Connecticut.

In 1963 he was awarded the Distinguished Service Award being honored by the United States Junior Chamber of Commerce. His name can be found in the 1965 edition of Outstanding Young Men of America.

He has been married to the former Gertrude Soloway since June 1953 and they have four daughters. They reside in West Hartford, Connecticut.

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